



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/820,963      | 03/30/2001  | Alexander Flaig      | EVOY001/00US        | 3906             |

23494 7590 03/16/2006

TEXAS INSTRUMENTS INCORPORATED  
P O BOX 655474, M/S 3999  
DALLAS, TX 75265

|          |
|----------|
| EXAMINER |
|----------|

TSE, YOUNG TOI

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2637

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/820,963

Applicant(s)

FLAIG ET AL.

Examiner

YOUNG T. TSE

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26,28,35-39 and 52-54 is/are allowed.
- 6) ☒ Claim(s) 1-25,29,41,43-45 and 51 is/are rejected.
- 7) ☒ Claim(s) 2,3,5-7,13-24,27,30-34 and 40-51 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings were received on December 27, 2005. These drawings are acceptable.

### ***Claim Objections***

2. Claims 2-3, 5-7, 13-24, 27, 30-34 and 40-51 are objected to because of the following informalities:

In claim 2, line 6, "regenerated factor" should be "regeneration factor".

In claim 3, line 11, "regeneration signal" should be "regenerated signal".

In claim 5, lines 1 and 2, "determining a" and "a regeneration factor" should be "determining the" and "the regeneration factor", respectively. Also see claims 6-7.

In claim 13, line 4, "a plurality" should be "the plurality" for clarity.

In claim 16, line 6, "regeneration signal" should be "regenerated signal".

In claim 20 (line 2) and claim 22 (line 3), "function" should be "function of".

In claim 24, line 1, "are" should be "is".

The dependent claims 14-15, 17-19, 21 and 23 are objected to because they are depended upon claim 13.

In claim 27, lines 3 and 9, "factor signal" should be "factor".

In claim 30 (lines 7-8) and claim 31 (lines 8-9), "the first modified-signal generator" appears to read "the second modified-signal generator".

In claim 32, lines 2 and 4, "a first user based on a" and "a second user based on a" should be "the first user based on the" and "the second user based on the", respectively. Also see claims 33 and 34.

In claim 40, line 9, "regenerator-factor" should be "regeneration-factor".

In claim 46, line 4, "signal" should be "signal."

The dependent claims 41-45 and 47- 50 are objected to because they are depended upon claim 40.

In claim 51, line 7, "a time 8 range" should be "a time range".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-25, 28-29, 41, 43-45 and 51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In both claim 1 and claim 13, the preamble recites a method for performing interference cancellation in a communication system, however, the body of neither claim 1 nor claim 13 recites any step(s) or claimed subject matter that how to perform the interference cancellation in order to achieve the goal of performing the interference cancellation in the communication system.

In claim 16, the phrase “subtracting, for each user from the plurality of users, the interference signal associated with each remaining user from the received signal associated with that user to produce a next-stage signal associated with that user” is not understood. Further, the term “the interference signal associated with each remaining user” lacks antecedent basis. Furthermore, it is unclear what is “that user” represent to since there is a plurality of users?

The dependent claims 2-12 and 14-24 are rejected to because they are depended upon claims 1 and 13, respectively.

In claim 25, the preamble recites a method for receiving in a communication system, however, it is unclear what is receiving in the communication system?

Claim 29 recites the apparatus of claim 28 further comprising the interference estimator is indefinite because the interference estimator is already recited in claim 28.

In claim 41, the Applicant is requested to clarify the difference between “each regeneration-factor generator from the plurality of regeneration-factor generators being uniquely associated with a user from the plurality of users” and “each regeneration factor from the plurality of regeneration factors being uniquely associated with a user from the plurality of users” since the plurality of regeneration factors are being generated by the plurality of regeneration-factor generators.

The claimed subject matters of claims 43-45 are not understood.

In claim 46, the phrase “wherein the plurality of regeneration-factor generators determines the regeneration factor associated with each user by calculating the regeneration factor associated with each user based on a function of a soft decision

associated with the received signal” is not understood since the plurality of regeneration-factor generators generates the plurality of regeneration factors. Also see claims 47-49.

In claim 51, lines 9-13, the phrase “a modified-signal generator coupled to the regeneration-factor processor, the modified-signal generator receiving the regeneration-factor signal associated with each user from the regeneration-factor processor and receiving a regenerated signal associated with each user, the modified-signal generator modifying the regenerated signal associated with that user based on the regeneration-factor signal associated with that user” is not understood and the term “the regeneration-factor signal” lacks antecedent basis. Further, it is unclear in what condition the modified-signal generator modifying the regenerated signal associated with that user based on the regeneration-factor signal associated with that user? Furthermore, it is unclear what is “that user” represent to since there is a plurality of users?

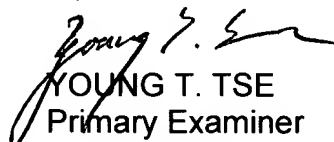
***Allowable Subject Matter***

5. Claims 26, 28, 35-39 and 52-54 are allowed.
6. Claims 2-3, 5-7, 13-24, 27, 30-34, and 40-51 would be allowable if rewritten or amended to overcome the objections set forth in this Office action.
7. Claims 1-25, 29, 41, 43-45, and 51 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday and Wednesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. However, starting July 15, 2005, the Central FAX Number will change to (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
YOUNG T. TSE  
Primary Examiner  
Art Unit 2637